



BlueCrest Alaska Operating LLC

3301 C Street, Suite 202
Anchorage, AK 99503

March 13, 2015

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**DIVISION OF
OIL AND GAS**

Mr. Joe Balash, Commissioner Alaska
Department of Natural Resources 550 W.
7th Avenue, Suite 1400
Anchorage, Alaska 99501

Re: Application for Approval to Establish the Cosmopolitan Unit

Dear Commissioner Balash:

In accordance with 11 AAC 83.306, BlueCrest Energy Inc. ("BlueCrest"), as proposed Operator of the proposed Cosmopolitan Unit, hereby petitions the Department of Natural Resources (the "Department") to approve the proposed Cosmopolitan Unit Agreement and the formation of the Cosmopolitan Unit. BlueCrest is qualified to be a unit operator under 11 AAC 83.331.

In accordance with 11 AAC 83.343 and Section 8.1 of the proposed Cosmopolitan Unit Agreement, BlueCrest hereby requests approval of the Initial Unit Plan of Development. BlueCrest is submitting a Plan of Development, a Plan of Exploration and a Plan of Operations for the Cosmopolitan Unit. These will address the term from September 2014 through December 2015 and will encompass Exhibit G.

As required by 11 AAC 83.321 five copies (one original and four copies) of the non-confidential portions of this Application for Approval to Establish the Cosmopolitan Unit (hereinafter referred to as the ("Application")) and two copies of the confidential portions of the Application (hereinafter referred to as the "Geological, Geophysical and Engineering Report"), submitted under separate cover with this Application, are submitted as part of this Application. Under the provisions of AS 38.05.035(a)(9)(C), BlueCrest requests that the two copies of the confidential portions of the Application remain confidential.

I. Application Contents

1. Background and description of the area proposed to be unitized.
2. A discussion of why this Application satisfies the criteria set out in 11 AAC 83.303 to approve a unit agreement as they relate to the proposed Cosmopolitan Unit leases, including pertinent **confidential** geological, geophysical, engineering, well data, and interpretations of those data, directly supporting the Application (“Geologic, Geophysical and Engineering Report”) as required by 11 AAC 83.306(4).
3. A summary and request for written findings and approval of the proposed Cosmopolitan Unit Agreement pursuant to 11 AAC 83.303.
4. DNR’s model unit agreement (“Cosmopolitan Unit Agreement”), which has been executed by BlueCrest who owns and controls one hundred percent (100%) of the working interest allocable to the leases comprising a controlling interest in the proposed Cosmopolitan Unit. Pursuant to 11 AAC 83.306, included with the Unit Agreement are a map of the proposed Cosmopolitan Unit (**Exhibit B**) and legal descriptions of the lands included in the unit application (**Exhibit A**).
5. Pursuant to 11 AAC 83.351, BlueCrest is currently deferring the determination of the Participating Area (PA) for the Cosmopolitan Unit. Once additional wells have been completed and testing or production information obtained it will be possible to achieve this component with the required accuracy to support the delineation. That information obtained from the Cosmopolitan State #1 well (2013) indicates that the PA will include Tracts 2, 3, 4, and 5 comprising State acreage. There are indications that adjoining unleased federal acreage west of the leasehold may also contain hydrocarbons for some horizons. This latter element cannot be effectively addressed without leasing and conducting exploratory drilling. The action at this time eliminates submission of Exhibits C, D, E, and F of the Unit Agreement until BlueCrest has gained sufficient information to define a PA.
6. As required by 11 AAC 83.306(1), a Three-Year Initial Unit Plan of Development for the Cosmopolitan Unit that complies with the criteria set out in 11 AAC 83.343(**Exhibit G**).
7. Payment in the amount of \$5,000 as the Application fee for a new unit.

II. Background and Description of the Area Proposed to be Unitized

The proposed Cosmopolitan Unit is located offshore, in Cook Inlet, from the Kenai Peninsula, and north of Anchor Point. DNR formed the first Cosmopolitan Unit on November 14, 2001. The first unit area covered approximately 24,601 acres of

federal and state leases, including seven individual State of Alaska oil and gas leases and two federal oil and gas leases.

Approval of the proposed Cosmopolitan Unit would cover 22,536 acres of State of Alaska lands. Approximately 15,000 acres included in BlueCrest's application was unitized by Director Mark Myers in 2001.

BlueCrest is the sole working interest owner of the seven individual State of Alaska oil and gas leases that form the basis for the unit application.

III. Discussion of 11 AAC 83.303 Criteria

A. Proposed Unit Area

DNR's regulations define a unit to mean "a group of leases covering all or part of one or more potential hydrocarbon accumulations, or all or part of one or more adjacent or vertically separate oil or gas reservoirs[.]"¹ A key criterion for unitization, therefore, is that the leases contained in the unit application overlie a reservoir or potential hydrocarbon accumulation.

DNR defines a "reservoir" to mean an "oil or gas accumulation which has been discovered by drilling and evaluated by testing and which is separate from any other accumulation of oil and gas."² DNR defines a "potential hydrocarbon accumulation" to mean "any structural or stratigraphic entrapping mechanism which has been reasonably defined and delineated through geophysical, geological, or other means and which contains one or more intervals, zones, strata, or formations having the necessary physical characteristics to accumulate and prevent the escape of oil and gas."³

B. Unit Exploration Acreage

That acreage outside of the known hydrocarbon accumulation, comprising leases ADL 391902, ADL 391899, and ADL 391900 is identified as Exploration Blocks; per definition 1.5, page 2, of the Unit Agreement. Available seismic data and well information has been interpreted to indicate the potential for exploration prospects within these two areas. BlueCrest is including this within the Cosmopolitan Unit in order to develop a timely exploration program to test this acreage, combined with unit

¹ 11 AAC 83.395(7).

² 11 AAC 83.395(6).

³ 11 AAC 83.395(7).

development wells. At this time two areas have been identified, Block-A (ADL 391902) and Block-B (ADL 391899 and ADL 391900).

DNR regulations therefore provide that a unit must encompass the minimum area required to include all or part of one or more oil or gas reservoirs, or all or part of one or more potential hydrocarbon accumulations.⁴

The proposed Cosmopolitan Unit Area includes multiple stacked reservoirs and potential hydrocarbon accumulations that may comprise a single Participating Area (PA). Due to limited data, a PA is not currently identified with this application. However, information comprising Exhibit E is included at this time to facilitate the review process by the Department of Natural Resources, Division of Oil and Gas. Once additional wells have been drilled and additional data obtained, BlueCrest will then proceed with the PA process.

It is also worth noting that most of the acreage proposed to be in the unit includes acreage that DNR unitized in 2001. DNR has previously found that all of the leases that BlueCrest is proposing to unitize overlie one or more oil or gas reservoirs or all or part of one or more potential hydrocarbon accumulations. In his decision approving the Cosmopolitan Unit in 2001, Director Mark Myers found "Division technical staff evaluated all data provided by the unit applicant to determine if the proposed unit area met those criteria [*i.e.*, that the proposed unit area included oil or gas reservoirs or potential hydrocarbon accumulations]. . . . The State's evaluation of the subsurface geology supports the configuration of the unit area proposed."

A map of the proposed Cosmopolitan Unit Area is attached to the proposed Cosmopolitan Unit Agreement as **Exhibit B**, which is enclosed herein.

The proposed Cosmopolitan Unit seeks to unitize all of the following State of Alaska leases, totaling 22,535.69 acres:

- Lease No. ADL 391902 (Tract 784), effective 9/01/2011, with a 5 year primary lease term
- Lease No. ADL 384403 (Tract 78-103), effective 1/01/1995, with a 7 year primary lease term
- Lease No. ADL 391903 (Tract 786), effective 9/01/2011, with a 5 year primary lease term

⁴ 11 AAC 83.356.

- Lease No. ADL 018790 (Block No. S-16-4-23), effective 9/01/1962, with a 5 year primary lease term
- Lease No. ADL 391904 (Tract 804), effective 9/01/2011, with a 5 year primary lease term
- Lease No. ADL 391899 (Tract 805), effective 9/01/2012, with a 7 year primary lease term
- Lease No. ADL 391900 (Tract 807), effective 9/01/2012, with a 7 year primary lease term

A more complete description of the leases proposed to be included in the Cosmopolitan Unit Area is set forth in **Exhibit A** to the proposed Cosmopolitan Unit Agreement.

C. Approval Criteria.

As mentioned above, DNR previously approved the formation of a unit over much of the acreage included in BlueCrest's Unit Application. DNR's previous decision found that unitization of this area satisfied the criteria set out in 11 AAC 83.303. BlueCrest incorporates by reference the pertinent discussion in the November 14, 2001 approval of the first Cosmopolitan Unit, Findings and Decision of the Director, Division of Oil and Gas.

Additionally, BlueCrest respectfully submits that approval of the proposed Cosmopolitan Unit Agreement and the formation of the Cosmopolitan Unit meets the criteria of 11 AAC 83.303(a), because it will:

1. *Promote the Conservation of All Natural Resources, Including All or Part of an Oil and Gas Pool, Field or Like Area (11 AAC 83.303(a)(1))*

Unitization of the leases in the proposed Cosmopolitan Unit Area provides an efficient, integrated approach to development of the numerous actual and potential reservoirs which promotes the conservation of all natural resources.

Consistent with 11 AAC 83.343(a), BlueCrest has submitted an Initial POD, the decision to identify a Participating Area with this filing has been postponed until additional geologic and engineering information has been obtained. In the Initial POD BlueCrest will drill oil production wells from the onshore drill site employing extended-reach drilling ("ERD") wells to develop the offshore reservoirs.

Development of the Cosmopolitan gas reservoirs is also being evaluated at this time. Offshore development, comprising the shallower oil zones and overlying gas

reservoirs, will be progressed only after oil production from the Hemlock and Starichkof Reservoirs has commenced. Additional planning and permitting is required for offshore production facilities, combined with onshore processing. Therefore, BlueCrest will need sufficient time to design the most efficient process and engage in long-lead construction to achieve full field development.

At this time, sanctioning for development of the gas reservoirs is pending availability of a suitable market for the gas in the Cook Inlet Basin. BlueCrest believes that current market needs in Southcentral Alaska will be ongoing and that timely development is justified, assuming that governmental approvals for offshore development will be received.

BlueCrest's ability to coordinate the foregoing development activities through unitization will reduce environmental impacts. One operator can efficiently plan and execute a development plan for the confirmed and potential reservoirs, utilizing a minimum amount of surface facilities and infrastructure.

Unitization also allows for coordinated use of infrastructure and for joint development of in an orderly and rational manner over a wide geographic area, instead of focusing on lease-by-lease development and making decisions based on lease preservation. Moreover, the data obtained from new wells is necessary to optimize the location of drilling future development wells. Coordinated development will therefore conserve resources and facilitate the greatest ultimate recovery of those resources.

The economic risk of exploratory drilling within the leasehold, identified as Exploration Blocks, is reduced with the establishment of infrastructure that will be put in place to develop the proposed Cosmopolitan Unit. Exploratory drilling is economically challenging for an operator and the potential to explore for satellite hydrocarbon accumulations on lease acreage adjoining the Cosmopolitan area will be supported by the new infrastructure. Therefore, the State of Alaska benefits with inclusion of the Exploration Blocks within the Cosmopolitan Unit as exploration activity has a greater chance of occurring with approval of the BlueCrest Energy unit application.

In contrast, without unitization, the unregulated development of reservoirs can result in waste caused by unnecessarily dense drilling, an increase in environmental damage caused by the concentration of surface activity, and the potential for the inefficient duplication of production, gathering, and processing facilities because development decisions made be dictated by lease preservation concerns instead of prudent business practices.

2. *Promote the Prevention of Economic and Physical Waste (11 AAC 83.303(a)(2))*

Unitization of the leases in the proposed Cosmopolitan Unit Area will promote the prevention of economic and physical waste by maximizing the recovery of oil and gas. Unitization allows exploration and development wells to be drilled in the best possible location to maximize drainage. Unitization also allows for implementation of economic reservoir pressure maintenance efforts as early as first production in each individual reservoir and enables numerous relatively small accumulations to share facilities and infrastructure to achieve synergies required to justify economic/commercial development and maximize production.

3. *Provide for the Protection of All Parties of Interest, Including the State (11 AAC 83.303(a)(3))*

Unitization of the leases in the proposed Cosmopolitan Unit Area will provide for the protection of all parties of interest by allowing production from each individual reservoir to be allocated back to each tract contributing to production in paying quantities based on the interpretation of all the geological, geophysical, engineering, and well data available.

To date, BlueCrest and its partners have spent approximately \$100MM exploring the proposed Cosmopolitan Unit Area. The information obtained from this effort has led to the further delineation of reservoirs and the identification of several potential hydrocarbon accumulations and prospects inside the proposed Cosmopolitan Unit Area. BlueCrest wishes to continue its exploratory and delineation activities and conduct development activities in the Area subject to the terms and conditions of the proposed Initial Plan of Development.

Unitization advances the state and BlueCrest's economic interests because it improves the economics of the project. DNR has long understood that an operator "would not produce marginal economic reserves on a lease by lease basis, but would produce them through unitized operations" because facility consolidation saves capital and promotes better reservoir management.⁵ Indeed, the high cost and high risk of the potential hydrocarbon accumulations require numerous prospects being explored and developed as a program, which then generate economic synergies and improves the probability of continuing economic development. The pace of exploration and development is linked to the ability of any operator to accumulate an acreage position, that offers sufficient access, and control of enough prospects to offer said synergies and improved probability of an economic development.

⁵ See *Pioneer Unit Agreement, Decision and Findings of the Commissioner*, March 31, 1998 at 11.

Moreover, unitization is critical to financing exploration, delineation, and development activities because it provides security to lenders that exploration and development will occur in a prudent and coordinated manner that minimizes waste and maximizes recovery.

Unitization is also in the state's conservation interests because it fosters efficient exploration and development of the state's resources by a single operator while minimizing impacts to the area's cultural, biological, and environmental resources. By reducing the amount of land and fish and wildlife habitat that would otherwise be disrupted by individual lease development, the environment is better protected and there is less potential for interference with subsistence activities.

4. *Environmental Costs and Benefits of Formation of Cosmopolitan Unit (11 AAC 83.303(b)(1))*

During exploration and through development operations of the Cosmopolitan Unit, activities will have the minimum amount of surface impact consistent with the prudent and efficient development practices of the oil and gas resources in the Cook Inlet Basin. This can only happen through unitized development. The environmental impacts would be significantly greater if the reservoirs were developed on a lease-by-lease or well-by-well basis in order to preserve leases, rather than on an integrated unitized basis.

5. *Geological and Engineering Characteristics of the Cosmopolitan Unit Reservoirs (11 AAC 83.303(b)(2)).*

DNR's November 14, 2001 approval of the first Cosmopolitan Unit describes in detail the geological and engineering characteristics of the Cosmopolitan Unit reservoirs and potential hydrocarbon accumulations. In addition, the CONFIDENTIAL Geological, Geophysical, and Engineering Submittal attached to this application, along with the information provided with BlueCrest March 31, 2014 proposed Initial POD and during our technical review meeting with the Division on April 21, 2014, describe the characteristics of the Cosmopolitan's reservoirs and potential hydrocarbon accumulations and exploration prospects.

6. *Prior Exploration Activities in the Proposed Cosmopolitan Unit Area (11 AAC 83.303(b)(3))*

Since 1967, significant exploration and delineation activity have tested the Tyonek, Lower Tyonek, Starichkof, and Hemlock formations. DNR's November 14, 2001 approval of the first Cosmopolitan Unit describes in detail the prior exploration activities that have occurred in the proposed and around the proposed unit area.

After unitization in 2001, various lessees have conducted additional exploration and delineation work. For example, in 2001 Conoco drilled an onshore well, the Hansen 1 well, which confirmed the previously discovered Starichkof oil zone, and also found oil in the deeper Hemlock zone. This well tested flow rates averaging 500 BOPD (380 BOPD from the Hemlock and 125 BOPD from the Starichkof). In 2003, Conoco drilled the Hansen 1A well, which was sidetracked from the original Hansen 1 wellbore. The Hansen 1A was flow tested in the Starichkof and Hemlock zones at rates exceeding 1000 BOPD with an average rate of 765 BOPD. In 2005, Conoco conducted a 3-D seismic survey, which clarified the geologic structure of the formations beyond the well bores. Pioneer drilled a sidetrack from the Hansen 1A well in 2007. This well, the Hansen 1AL1, tested the single Starichkof zone at an average rate of 285 BOPD oil and 1,150 MCF/D gas. Over 33,000 barrels of oil was produced during the testing. The well is currently completed and waiting for surface facilities to begin production.

More recently, Buccaneer acquired an interest in the Endeavor jack-up rig. This rig was used to drill the Cosmopolitan State No. 1 well, which discovered and tested six new productive gas zones, four new productive oil zones, and confirmed previously identified zones.

In short, 3-D seismic has been shot over the area, six wells have been drilled in the unit area, six known oil zones and six known gas zones have been identified, four formations have been tested, and two wells have been certified as capable of producing in paying quantities.

7. *Plan for Exploration and Development of the Proposed Cosmopolitan Unit Area (11 AAC 83.303(1)1(4))*

Exhibit G to the proposed Cosmopolitan Unit Agreement sets forth the Cosmopolitan Unit proposed Initial Unit Plan of Development. This Initial Plan of Development (POD) demonstrates that BlueCrest will timely move the unit area into production by committing to placing the Hemlock and Starichkof formations into production by the first half 2016.

The Initial POD also sets out a timely sequence of reservoir exploration activities that will facilitate the ultimate development and production of the reservoir(s) underlying the unit area. Oil development and production will be the initial focus of BlueCrest's activities, followed by the pursuit of shallower oil and gas zones. This component will require separate offshore facilities and the design review and timing is not currently defined, based upon immediate needs.

BlueCrest requests that the Initial POD be for a one-year term so that it can base the second POD on the information gathered from drilling and testing. After placing the field into production and drilling additional wells, BlueCrest also commits to addressing further appraisal, delineation or development within the unit area in future POD's.

8. *Economic Costs and Benefits to the State*

A primary goal of unitization is the protection of the parties in interest in one or more hydrocarbon accumulations. The formation of the proposed Cosmopolitan Unit extends these benefits and protections to leases capable of contributing to production. The state's economic interest is protected by maximizing the physical recovery of hydrocarbons from the Cosmopolitan Unit reservoirs and by allowing BlueCrest the opportunity to further delineate potential hydrocarbon accumulations and potentially places these resources onto production. Maximizing hydrocarbon recovery assures that the production-based revenue occurring to the state is also maximized

Unitization also encourages investment in exploration, which may lead to the development of new, currently undeveloped formations underlying the leased area. While the present application requests unitization under a single Working Interest Owner, this may not be the status in future years. BlueCrest requests unitization to facilitate agreements that may be entered into which will require confirmation of his process and ensure that the interests of BlueCrest and the State of Alaska are defined

Unitization fosters new production sources which will stem the decline in Alaska production, generating jobs for South-Central residents and other Alaskans, provide long-term tax revenue to the Kenai Peninsula Borough and State of Alaska, and increase the longevity of the Cook Inlet oil and gas infrastructure. Therefore, the State's economic interest is advanced by unitized development.

9. *Other Relevant Factors (11 AAC 83.303(b)(6))*

DNR has a longstanding history of allowing a single lessee to unitize. In fact, in a June 3, 1975 Attorney General's Opinion, the Department of Law concluded that state law authorizes a single lessee to form a unit if the lessee can demonstrate that unitization is necessary for conservation purposes, prevent waste, or minimize environmental impacts. BlueCrest's application has demonstrated that unitizing these leases serves the purposes of unitization because it will allow for the timely and coordinated development of multiple reservoirs and the exploration and delineation of several highly prospective potential hydrocarbon accumulations. Conversely, denying this unit in favor of lease-by-lease development may result BlueCrest having to drill wells merely to preserve a lease instead of drilling based on geologic considerations. This is wasteful for the state given that as Lessor, the state should want to see wells drilled on the best data.

D. Term.

Consistent with 11 AAC 83.336, BlueCrest requests that the term of the proposed Cosmopolitan Unit be for Ten years, until 2024, subject to the terms and conditions of the proposed Cosmopolitan Unit Agreement.

IV. APPROVAL OF INITIAL UNIT PLAN OF DEVELOPMENT

In accordance with 11 AAC 83.343 and Section 8.1 of the proposed Cosmopolitan Unit Agreement, BlueCrest, as operator and the only working interest owner of the proposed Cosmopolitan Unit hereby requests DNR's approval of the Initial Unit Plan for the Cosmopolitan Unit. The Initial Unit Plan of Development is enclosed herein. What follows summarizes the features of the Initial Unit Plan of Development:

- BlueCrest is preparing to commence clearing and grading of the onshore production pad (Hansen Pad) prior to the onset of winter 2014.
- BlueCrest is submitting the Unit Application to form the Cosmopolitan Unit.
- BlueCrest is in the process of finalizing the engineering plans for the onshore portions of the Cosmopolitan development during 2014 or during early 2015.
- BlueCrest is completing permitting applications for construction and operation of the onshore portions of the Cosmopolitan Development. These are expected to be submitted either during the 4Q-2014 or 1Q-2015.
- BlueCrest has contracted to obtain the Parker Rig #269 for delivery at the onshore Cosmopolitan Pad in either 1Q-2015 or 2Q-2015. Onshore drilling for the offshore oil development is expected to commence in the 2Q-2015.
- BlueCrest is permitting to potentially commence drilling a delineation well from a jackup drilling rig during the summer of 2015. The rig used will likely be one of the two offshore jackup rigs currently in Cook Inlet.

BlueCrest requests that all acreage for each identified lease within the new unit remain intact for this unit application to better ensure that prospective acreage outside of the known hydrocarbon accumulation be available for exploration. The exploration prospects are unlikely to merit stand-alone funding to pursue independently. However, with the establishment of new infrastructure to develop and produce the Cosmopolitan Unit hydrocarbon reserves, the process to explore and develop satellite accumulations becomes economically justifiable. Therefore, BlueCrest believes it has sufficient standing to make this request of the Department of Natural Resources, Division of Oil and Gas at this time.

Please feel free to contact me at 907.754.9555 if you have questions or need to discuss the information submitted.

Respectfully,

A handwritten signature in blue ink, appearing to read 'Steven J Massey', with a stylized, flowing script.

Steven J Massey
Vice-President Alaska